



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1400  
Alexandria, Virginia 22303-1400  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,400	02/11/2002	Raffaele Boehmacci	AU/121	3983
1473	7590	06/02/2004	EXAMINER	
FISH & NEAVE 1251 AVENUE OF THE AMERICAS 50TH FLOOR NEW YORK, NY 10020-1105			LAZOR, MICHELLE A	
			ART UNIT	PAPER NUMBER
			1734	

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/073,400

Applicant(s)

BECHERUCCI ET AL.

Examiner

Michelle A. Lazor

Art Unit

1734

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —  
 Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-23 and 25-31 is/are pending in the application.
- 4a) Of the above claim(s) 26-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-23, 25 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/ISB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other \_\_\_\_\_

# DETAILED ACTION

## *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 4, 6 – 10, 17, 21 – 23, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Swain et al. (U.S. Patent No. 5433572).

Regarding Claims 1 – 4 and 21 – 23, Swain et al. disclose a workstation wherein at least one of said units is of a first type comprising a cabinet for providing a controlled ambient during the performance of a step of said process (Figure 5); and a rotating vertical support structure (column 10, lines 4 – 37) disposed in said cabinet, said support structure having a plurality of fixtures disposed in an annular region thereon, wherein said fixture comprises a structure for receiving said components therein along a path substantially perpendicular to the face of said rotating vertical support structure and comprising open structures configured to allow air to circulate through the fixtures to expose substantial surface portions of said held components to said controlled ambient (Figure 1; column 5, lines 51 – 68), wherein said cabinet further comprises an annular compartment having said controlled ambient (Figures 2, 3, and 5), and wherein said the temperature of said controlled ambient is controlled by flow of heated air through said cabinet (column 14, lines 23 – 43). Thus Swain et al. disclose all the limitations of Claims 1 – 4 and 21 – 23, and anticipate the claimed invention.

Regarding Claims 6 – 10, Swain et al. disclose a control unit (column 7 line 54 – column 8, line 17) to control rotation of said vertical support structure, wherein the rotation of said vertical support structure is capable of being intermittent with alternating periods of rotation and periods of pause, and wherein at least one of said fixtures is aligned with a predetermined position during said periods of pause; wherein the angle of rotation during a said period of rotation is capable of being less than about  $\frac{1}{2}$  radian; wherein said predetermined position corresponds to a position for loading and unloading components from said aligned fixture (column 10, lines 4 – 37); and wherein said plurality of units are disposed adjacent each other (Figure 5), said workstation further comprising movable transfer devices disposed alongside said plurality of units, wherein said movable transfer devices are capable of motion in linear spatial dimensions (column 13, lines 39 – 48 and column 4, line 48 – column 5, line 50). Thus Swain et al. disclose all the limitations of Claims 6 – 10, and anticipate the claimed invention.

Regarding Claim 17, Swain et al. disclose one of said plurality of units heats said components to cure the resin applied to said components (column 14, lines 23 – 43). Thus Swain et al. disclose all the limitations of Claim 17, and anticipate the claimed invention.

Regarding Claim 26, Swain et al. disclose said cabinet further comprises a compartment for cooling said components after the performance of said process step (column 14, lines 23 – 43). Thus Swain et al. disclose all the limitations of Claim 26, and anticipate the claimed invention.

#### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1734

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 – 3, 6, 17, 21, 22, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jenkins (U.S. Patent No. 4730575) in view of Swain et al..

Regarding Claims 1 – 3, 21, 22 and 25, Jenkins discloses a workstation wherein at least one of said units is of a first type comprising a cabinet for providing a controlled ambient during the performance of a step of said process (Figures 1 & 2); and a rotating vertical support structure disposed in said cabinet, said support structure having a plurality of fixtures disposed in an annular region thereon, wherein a said fixture comprises a structure for receiving said components therein along a path substantially perpendicular to the face of said rotating vertical support structure, wherein said cabinet further comprises an annular compartment having said controlled ambient (Figure 5B); and wherein said held components travel through said annular compartment as said vertical support structure rotates during the performance of said process. step; (column 3, line 36 – 52); but do not disclose said fixtures comprising open structures configured to allow air to circulate through the fixtures to expose substantial surface portions of said held components to said controlled ambient. However, Swain et al. disclose comprising open structures configured to allow air to circulate through the fixtures to expose substantial surface portions of said held components to said controlled ambient (Figure 1; column 5, lines 51 – 68). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use fixtures as described above as an alternative design for securing a substrate.

Regarding Claims 6, 17, and 26, Jenkins discloses a control unit or known means capable of controlling rotation of said vertical support structure (column 3, lines 36 – 39); a unit which

Art Unit: 1734

heats said components to cure the resin applied to said components (column 3, line 21 – 52); and a compartment for cooling said components after the performance of said process step (Figure 5B; column 3, lines 52 – 56).

5. Claims 1 – 4, 6 – 9, 11 – 14, 17, 21 – 23, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hammond et al. (U.S. Patent No. 5090350), in view of Swain et al.

Regarding Claims 1 – 4, 21 – 23, and 25, Hammond et al. disclose a workstation wherein at least one of said units is of a first type comprising a cabinet for providing a controlled ambient during the performance of a step of said process (400); and a rotating vertical support structure (about a vertical axis, V) disposed in said cabinet, said support structure having a plurality of fixtures disposed in an annular region thereon, wherein a said fixture comprises a structure for receiving said components therein along a path substantially perpendicular to the face of said rotating vertical support structure, wherein said cabinet further comprises an annular compartment having said controlled ambient (Figures 1, 3, and 7A), and wherein said held components travel through said annular compartment as said vertical support structure rotates during the performance of said process step; and wherein said the temperature of said controlled ambient is controlled by flow of heated air through said cabinet (column 9, line 43 – column 10, line 37); but do not disclose said fixtures comprising open structures configured to allow air to circulate through the fixtures to expose substantial surface portions of said held components to said controlled ambient. However, Swain et al. disclose comprising open structures configured to allow air to circulate through the fixtures to expose substantial surface portions of said held components to said controlled ambient (Figure 1; column 5, lines 51 – 68). Therefore it would

have been obvious to one of ordinary skill in the art at the time of the invention to use fixtures as described above as an alternative design for securing a substrate.

Regarding Claims 6 – 9, Hammond et al. disclose a control unit to control rotation of said vertical support structure, wherein the rotation of said vertical support structure is intermittent with alternating periods of rotation and periods of pause, and wherein at least one of said fixtures is aligned with a predetermined position during said periods of pause; wherein the angle of rotation during a said period of rotation is capable of being less than about  $\frac{1}{2}$  radian; and wherein said predetermined position corresponds to a position for loading and unloading components from said aligned fixture (column 3, line 65 – column 4, line 13).

Regarding Claims 11 – 14, Hammond et al. disclose a first one of said plurality of units is capable of preheating said components (column 5, line 47 - column 6, line 19), wherein a second one of said plurality of units is capable of applying resin to said components; wherein said second one of said plurality of units is a unit of said first type; wherein a multiplicity of said fixtures in said second one of said plurality of units are aligned with a multiplicity of resin-receiving positions, and wherein at said resin-receiving positions resin is applied to components loaded in said aligned fixtures (Figures 1, 5A and 5B).

Regarding Claim 17, Hammond et al. disclose one of said plurality of units heats said components to cure the resin applied to said components (column 9, lines 43 – 60).

Regarding Claim 26, Hammond et al. disclose said cabinet further comprises a compartment for cooling said components after the performance of said process step (column 10, lines 18 – 27). Thus Hammond et al. disclose all the limitations of Claim 26, and anticipate the claimed invention.

6. Claims 11 – 14, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swain et al. as applied in Claim 1 above, in view of Hammond et al.

Regarding Claims 11 – 14 and 18, Swain et al. disclose all the limitations of Claim 1, including a unit which applies resin to said components (column 14, lines 5 – 22), wherein said second one of said plurality of units is a unit of said first type (Figure 5); wherein a multiplicity of said fixtures in said second one of said plurality of units are aligned with a multiplicity of resin-receiving positions, and wherein at said resin-receiving positions resin is applied to components loaded in said aligned fixtures (Figure 5; column 10, lines 4 – 37); a resin-curing unit (column 14, lines 23 – 43); movable transfer devices disposed alongside said plurality of units (column 13, lines 39 – 48 and column 4, line 48 – column 5, line 50); and a control unit (column 7, line 54 – column 8, line 17), but does not disclose a unit capable of preheating said components. However, Hammond et al. disclose a unit capable of preheating said components (column 5, line 47 - column 6, line 19). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to preheat the substrates to equilibrate the substrates to the required process temperature to counteract evaporative cooling (column 6, lines 9 – 19).

Regarding Claim 19, the control unit disclosed by Swain et al. is considered capable of synchronizing the intermittent rotation of said vertical support structures such that the periods of pause in said preheating unit, in said resin application unit, and in said resin curing unit occur substantially simultaneously such that said vertical support structures are stationary at substantially a same time interval (column 5, line 47 - column 6, line 19).



Art Unit: 1734

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swain et al. and Hammond et al. as applied in Claim 13 above, in view of Toussaint et al. (U.S. Patent No. 3619240) and Allen et al. (U.S. Patent No. 3901180).

Swain et al. and Hammond et al. disclose all the limitations of Claim 13, but do not disclose said plurality of units to further comprise vertically movable resin-bearing trays that are disposed vertically below said resin-receiving positions. However, Toussaint et al. disclose using either immersion or an atomizer to coat a substance on a substrate (column 3, line 73 – column 4, line 3), and Allen et al. disclose a tank which can be raised vertically to coat substrates (Abstract). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use immersion means to coat a substance on a substrate as an alternative to an atomizer, and it would have been obvious to use a tank which can be raised vertically to facilitate coating of the substrates.

#### *Allowable Subject Matter*

8. Claims 15 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, as discussed in the Office Action sent 10/27/03.

#### *Response to Arguments*

9. Applicant's arguments with respect to claims 1 and 21 have been considered but are moot in view of the new ground(s) of rejection. Swain et al. disclose fixtures comprising open structures which allow air to circulate through the fixtures while also exposing substantial surface portions of said held components to said controlled ambient (Figure 1), as discussed above.

Art Unit: 1734

***Conclusion***

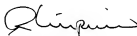
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle A Lazor whose telephone number is 571-272-1232. The examiner can normally be reached on Mon - Wed 6:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



MAL  
5/26/04



RICHARD CRISPINO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700